Virginia Title V Operating Permit

Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-305 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Hercules, Aqualon Division
Facility Name:	Hercules, Aqualon Division
Facility Location:	1111 Hercules Road; Hopewell, Virginia
Registration Number:	Registration No. 50363
Permit Number:	PRO50363

September 1, 2003
Effective Date

September 1, 2008
Expiration Date

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Robert G. Burnley
Director, Department of Environmental Quality

August 27, 2003
Signature Date

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I. Facility Information

Permittee
Hercules, Aqualon Division
1111 Hercules Road
Hopewell, Virginia 23860

Responsible Official
James J. Reyher
Plant Manager

Facility
Hercules, Aqualon Division
1111 Hercules Road
Hopewell, Virginia 23860

Contact Person
Gleness R. Knauer
Environmental Engineer
804-541-4506

AIRS Identification Number: 51-670-0006

Facility Description: SIC Code 2869 – Hercules Incorporated, Aqualon Division operates a manufacturing facility in Hopewell, Virginia. A variety of cellulose products used in the production of a wide range of consumer products and product packaging are manufactured at the facility.

II. Emission Units

Equipment to be operated consists of:

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
CMC Cellulose Preparation Area CMC Capacity: 26,500 tons/yr	CM-ACD-001	Cellulose Bin (Flexkleen) Baghouse	2151 750927	Conveyance System Including: Shredders, Primary&Secondary #1 #2 #3 #4 Vent Intake Filters (4) Cellulose Weigh Bin Cellulose Weigh Bin Bin Vent Filter Cellulose Weigh Bin Bin Vent Filter Cellulose Weigh Bin	 2064 550204, 550013 550194, 550191 550192, 550226 550196, 550223 2064 750916 750917 750918 750919 2151 801315 2151 801316 2151 2151 (as above) 2151 2151 (as above)
	CM-ACD-002	Vacuum System Filter	2064 750166	Housekeeping Vacuum System	2064
	CM-ACD-003	Zero Point Filter	2151 751402	Conveyance System Including Cyclone	2151 2058
CMC Treatment Reaction and Purification	CM-ACD-004	Mix Tank Scrubber	2058 010245 (located at 2165)	MCA/IPA Mix Tank T-231	2165 801694
	CM-ACD-005	A/C Loading Scrubber	2058 010239	Alkali Cellulose Vessels 301 302 303 (through pre-mixers #1 & #2)	2058 700109 700110 700112 600006, 600374
	CM-ACD-006	"A" Building Vent Scrubber	2058 010240	Common Header Alkali Cellulose Vessels	2058 2058 (as above)

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Reaction Vessels (3)	2058
					700036
					700043
					700013
				Hold Tubs	2058
				401	801579
				402	801580
				Reslurry Tubs	2058
				410	801573
				411	801574
				412	801576
				413	801578
				414	(none)
				Centrifuges, seals	2058
				410	770030, 750071
				411	770034, 750347
				412	770016, 750554
				413	770045, 750223
				414	770041, 751042
				Caustic/IPA Mix Tanks	2058
				#1	801567
				#2	801568
				Caustic Scale Tank	800059
	CM-ACD-007	Oxygen Scrubber	2058 010241	Reaction Vessels (3) (when peroxide is being added or there are high N_2 flows)	2058 (as above)
CMC Dryers	CM-ACD-201	West “B” Building Scrubber	2059		
				Dryer Overhead System	2059
				#3 Wet Dust Collector	750320
				Dryer No. 3	400035
				#4 Wet Dust Collector	750321
				Dryer No. 4	400030
				Centrifuges, seals	2059
				#5	770005, 750064
				#6	770008, 750067
				Blend Tubs (4)	2059
				#5	800712

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				#6	800713
				#7	800714
				#8	800715
	CM-ACD-202	Zero Point Filter	2059 750767	Nos. 3 and 4 Dryer Unloading System	2059
	CM-ACD-203	East "B" Building Scrubber	2059	Dryer Overhead System	2059
				#5 Wet Dust Collector	750266
				Dryer #5	400026
				#6 Wet Dust Collector	750979
				Dryer #6	400028
				Centrifuges, seals	2059
				#7	770018, 750068
				#8	770021, 751044
				Bend Tubs (2)	2059
				#9	800575
				#10	800576
	CM-ACD-204	Zero Point Filter	2059 750678	Nos. #5 and #6 Dryer Unloading System	2059
CMC Finishing and Packaging	CM-ACD-301	D.C. = Dust Collector Storage Bin Vent Filter Header	2075	Dryer Storage Bins/filters (8)	2075 800836 751295 800837 751297 800838 751296 801036 751291 800513 751290 800514 751292 800515 751294 800516 751293
	CM-ACD-309	No. 1 Mill Feed D.C.)	2173 751221	Mill Feed Conveyance	2173
	CM-ACD-310	No. 2 Mill Feed D.C.)	2173 751222	From Dryer Storage Bins	
	CM-ACD-311	Regrind Mill Feed D.C.)	2173 751223	Or the Addback Station	
	CM-ACD-312	No. 1 Mill Product D.C.	2173 751224	No. 1 Mill	2173 801665
	CM-ACD-313	No. 2 Mill Product D.C.	2173 751225	No. 2 Mill	2173 801664
	CM-ACD-314	Regrind Mill Product D.C.	2173 751226	Regrind Mill	2173 801636
	CM-ACD-315	Air Mix Blender D.C.	2173 751228	No. 1 Air Mix Blender	2173 801660
	CM-ACD-316	Air Mix Blender D.C.	2173 751229	No. 2 Air Mix Blender	2173 801662
	CM-ACD-317	Custom Blender D.C.	2173 751227	Custom Blender	2173 600400
	CM-ACD-318	Vacuum D.C.	2173 801673	Housekeeping Vacuum, Fan	2173 110756
	CM-ACD-319	Aspiration D.C.	2173 751230	Aspiration Fan	2173 140166
CMC Tank Storage	CM-ACD-400	MCA Tank Scrubber (former Sewer Scrubber)	9013	MCA Storage/Scale Tanks	
	CM-TNK-401			T-811	9013 801616

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
	CM-TNK-402			T-812	9013 801710
	CM-TNK-403			T-813	9013
	CM-ACD-404	Acetic Acid Scrubber	2113		
	CM-TNK-405			Acetic Acid Storage Tank	2113 800518
	CM-ACD-406	Field Tank Vent Scrubber	9106 10009	Methanol Spent Tanks (6)	9106
	CM-TNK-407			T-4	800174
	CM-TNK-408			T-9, Solvent Swing	800486
	CM-TNK-409			T-14	800824
	CM-TNK-410			T-25B	800506
	CM-TNK-411			T-26B	800507
	CM-TNK-412			T-28B	
				Methanol Reuse Tanks (3)	9106
	CM-TNK-413			T-26A	801313
	CM-TNK-414			T-27A	801312
	CM-TNK-415			T-27B	
	CM-TNK-416			IPA Spent Tank T-12	9106 800486
				IPA Reuse Tanks (3)	9106
	CM-TNK-417			T-23B	
	CM-TNK-418			T-24A	801311
	CM-TNK-419			T-24B	
				Methanol Fresh Tanks	9106
	CM-TNK-420			T-13	800487
	CM-TNK-421			Brine Tank T-921-1	9106 801607
				Fresh IPA Tanks (2)	9106
	CM-TNK-422			T-7	800177
	CM-TNK-423			T-8	800178
		Vent to Atmosphere		Hydrogen Peroxide	9106
	CM-TNK-424			Storage Tanks (2)	800128
	CM-TNK-425				800917
		Vent to Atmosphere		Hydrogen Peroxide Mix	
	CM-TNK-426			Tanks for Reactors (2)	
	CM-TNK-427				
CMC Solvent Recovery	CM-ACD-501	Tank Farm Vaporsphere Scrubber	9106 010009	C Stills Area, 3 Columns	2062
				B-3 IPA	010083
				C-1 Stripper	010037
				C-2 Separator	010038
				C-3 IPA	010062
				D Stills Area, 2 Columns	2132
				D-1 Stripper	
				D-2 Separator	010113
					010114

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
Natrosol Cellulose Preparation (shared with Klucel) Natrosol Capacity: 21,900 tons/yr	NA-ACD-001	Cellulose Bin Dust Collector (Pulsaire)	2117 750246	Conveyance System Including: Shredders, Primary&Secondary #1 #2 #3 Vent Intake Filters (3) (Flexkleens) Shredder, Condux Cellulose Weigh Bins #1 T111 #2 T112	 2114 550197, 550096 550190, 550225 550193, 550224 2114 750920 750921 750922 2113 550243 2117 800564 800483
	NA-ACD-002	Vacuum Dust Collector	2114	Housekeeping Vacuum	2114
	NA-ACD-003	Zero Point Filter	2117 (none)	Conveyance System Including Cyclone	2101
Natrosol Reaction, Purification, and Drying	NA-ACD-101	Solvent Vent Scrubber	2101 0110193	Batch Reactors (4) #1 #2 #3 #4 [fed by Pre-Mixers (2)] Viscosity Reduction Vessels (VRVs) #1 #2 #3 #4 #5 Hortensphere Caustic/TBA MixTanks #1 #2 Reactors (4) Hold Tubs 1 2	2101 700098 700097 700093 700117 2101 800462 801353 2101 700006 700007 700013 700052 700069 2100 800341 2101 800462 801353 2101 (same/above) 2101 800962 800878

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Reslurry Vessels (2)	2101
				#1	800963
				#3	800488
				Centrifuges (5)	2101
				No.1	750076
				No.2	750075
				No.5	751045
				No.6	751043
				No.7	750958
				Washer, AllisChalmers	2101 010059
				Turbilizer	2101
				Drag Chain	2101
				VRV (5)	2101 (same/above)
				Dump Tanks (2)	2101
				1	801356
				2	801357
				Blend Tubs	2101
				1	800960
				2	800044
				3	800489
				4	800879
				Centrifuges	2101
				No.3	750072
				No.4	750069
				TBA Head Tank	2101
				(2) Vacuum Pump Separator Systems [By way of Vacuum Pumps (3), Condensers (primary and secondary), Separator, Cyclone, Wet Dust Scrubber, Sock Cages, Dryers, and Vent Condenser]	2101 140158, 140167, 140165
	NA-ACD-103	Dryer Unloading Zero Point Filter	2101 750765	Dryers (2)	2101
				#1	400159
				#2	400025
				Conveyance System Including Cyclone	2101 750662
Natrosol Grinding, Blending and Packout	NA-ACD-201	D.C. = Dust Collector South Knockdown Tower	2104	D.C. = Dust Collector South Mill System D.C. Dust Collectors (3)	2104
				DSB D.C.	750955
				North Mill D.C.	750961
				South Mill D.C.	750672

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)		Equipment to be Operated	Equipment Location No. (Account)	
					Mills (2)		
					South Mill		550201
					North Mill		550200
					Pulverizer Dryer Storage Bins (4)		
					#1		800117
					#2		800062
					#3		800511
					#4		800875
	NA-ACD-202	East Knockdown Tower	2104		East Mill System D.C. (2) Dust Collectors (2)		
					West D.C.		750578
					East D.C.		750579
					Mills (2)		
					West Mill		550141
					East Mill		550140
					Pulverizer Dryer Storage Bins (4)		(as above)
	NA-ACD-203	Zero Point Filter	2104	750304	BSB Bottom Cyclone #2	2116	750306
	NA-ACD-204	Zero Point Filter	2104	750859	BSB Top Cyclone #4	2116	750857
	NA-ACD-205	Zero Point Filter	2104	750303	West Cyclone	2104	750305
	NA-ACD-206	Zero Point Filter	2104	750860	Southeast Cyclone	2104	750858
	NA-ACD-207	Zero Point Filter	2104	750620	East Cyclone	2104	750621
	NA-ACD-208	Zero Point Filter	2104	750632	North Packout Cyclone	2104	750631
	NA-ACD-209	Addback Dust Collector	2104		Addback Hopper	2104	
	NA-ACD-210	#1 Airmix D.C. (N)	2104	750571	No.1 Airmix Blender N	2104	600165
	NA-ACD-211	#2 Airmix D.C. (S)	2104	750848	No.2 Airmix Blender S	2104	600210
	NA-ACD-212	Secondary Vacuum D.C.	2104	750636	Primary Vacuum Separator	2104	750635
Natrosol Tanks	NA-ACD-301	EO/PO Scrubber	8575	010255	Pressure Bleed for EO Storage/Transfer System Inerting	8575	
	NA-TNK-330				EO Storage Tank T-130	9108	800527
	NA-ACE-101	Solvent Vent Scrubber			Vent Header Hortensphere	2100	800341
	NA-TNK-341				Spent TBA Tank T-41	9101	801393
	NA-TNK-347				Reuse TBA Tank T-47	9101	800114
	NA-TNK-340				Fresh Acetone Tank T-40	9101	800110

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Fresh TBA Tanks (2)	9101
	NA-TNK-342			T-42	800112
	NA-TNK-343			T-43	800113
	NA-TNK-344			Spent Acetone Tk T-44	9101 800842
				Reuse Acetone Tnks (2)	9101
	NA-TNK-348			T-48	800115
	NA-TNK-349			T-49	800490
	NA-TNK-345			Weak Acetone Tk T-45	9101 800210
		Atmospheric Venting			
	NA-TNK-300			Nitric Acid Tank	
				Caustic (NaOH) Tks (2)	9101
	NA-TNK-313			#1	801613
	NA-TNK-363			#2	801363
	NA-TNK-339			Hydrogen Peroxide Storage/Scale Tank	2100 800039
		Blow Tank Stack	2101	Emergency Relief	
	NA-TNK-370			Reactor Blow Tank	2101 80
	NA-ACD-375	Carbon Bed Absorber	2101	NBGE Totes	2101
Natrosol Solvent Recovery	NA-ACD-302	Hortensphere [Vents to atmosphere on startup)	2100 800341	Distillation Columns (3)	2106
				#1 Acetone	010057
				#2 Acetone	010060
				TBA Still	010190
Klucel Cellulose Preparation (shared with Natrosol)	KL-ACD-001	Cellulose Bin Baghouse (Pulsaire)	2131 750633		
				Conveyance System Including:	
				Shredders, Primary&Secondary	2114
				#1	550197, 550096
				#2	550190, 550225
Klucel Capacity: 2,300 tons/yr				Vent Intake Filters (2) (Flexkleens)	2114
					750920
					750921
					750922
				Shredder, Condux	2114 550243
				Cellulose Weigh Bin	2131 800890
	KL-ACD-002	Zero Point Filter	2131 (none)	Conveyance System Including Cyclone	2130 750351
	NA-ACD-002	Vacuum Dust Collector	2114 (none)	Housekeeping Vacuum	2114 (none)
Klucel Reaction, Purification, and	KL-ACD-101	Process Scrubber	2130 750359		
				Secondary Condenser	2130 280421
				Primary Condenser	280882
				#2 Reactor	700119

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
Drying				Wash Tubs	
				#1	800599
				#2	800944
				Centrifuge	
				#1	750660
				#2	750676
	KL-ACD-102	Venturi Scrubber or Atmospheric Venting	2130 (none)	Ambergum Mix Tank	2130 700044
	KL-ACD-103	Acetic Acid Scrubber (packed tower)	2130 (none)	Acetic Acid Head Tank And Transfer System	2130 800607
Klucel Grinding and Finishing	KL-ACD-201	Common Header Vent	2133		
		#1 Blender Dust Collector	750701	#1 Airmix Blender	2133 600203
		#2 Blender Dust Collector	750702	#2 Airmix Blender	2133 600204
		#3 Blender Dust Collector	(none)	#3 Airmix Blender	2133 600292
	KL-ACD-202	Process Dust Collector	2133 751270	Addback Hopper(Blender) and Packout Station	2133 600200
	KL-ACD-203	Housekeeping Dust Collector	2133 (none)	Housekeeping Vacuum	2133 750688
Klucel Tanks	KL-ACD-301	Process Vent Scrubber		Vent Pre-condenser	9112 281085
	KL-TNK-308			Fresh TBA Tank T-8	9101 800253
				Fresh Heptane Tanks	9101
	KL-TNK-307			T-7	800257
	KL-TNK-337			T-37	801466
	KL-TNK-322			Spent Tank T-22	9101 801056
	KL-TNK-306			Extraction Feed Tk T-6	9101 800254
	KL-TNK-309			Distillation Feed T-9	9101 800255
	KL-ACD-302	EO/PO Scrubber	8575 010255	Pressure Bleed for PO Storage/Transfer System	8575 (none)
	KL-TNK-363			PO Storage Tank	9112 800596
				PO Scale Tank	
				Pressure Bleed for PO Railcar and Railcar Transfer System	
	KL-TNK-303	Blow Tank Stack		Emergency Relief	9112 801463

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Reactor Blow Tank	9112
		Atmospheric vents			
	KL-TNK-350			Peroxide Storage Tank	800750
	KL-TNK-364			Peroxide #1 Head Tank	801464
	KL-TNK-368			Peroxide #2 Head Tank	800608
	KL-TNK-362			Caustic Scale Tank	801462
	KL-TNK-365			Caustic Storage Tank	801465
Klucel Solvent Recovery	KL-ACD-401	Vent Scrubber	2129 750359	Distillation Column	8617 010056
EC Cellulose Preparation	EC-ACD-001	Cyclone (open top)	2111 750199	Cellulose Shredders and Transfer Line	2048
				#1 South	550031
				#2 North	550032
EC Reaction and Purification	EC-ACD-101	Vent Scrubber System	2111 750175	Building Vapor Scrubber Autoclaves (Reactors)	2111
				#12	700082
				#13	700081
				#11	700075
EC Capacity: 3,500 tons/yr		Vent to Atmosphere		Leach Tubs (2)	2111
				#8	800432
				#9	801283
				Wet Mill	2111 550084
				Wash Tubs (3)	2111
				#18	800430
				#19	800431
				#20	801457
				Dryer Centrifuges (2)	2155
				#2	750081
				#3	750196
EC Drying and Finishing	EC-ACD-201	Wet Scrubber /Vent to Atmosphere	2155 751055	Vacuum Dryers (2)	2155
					400012
					400013
	EC-ACD-202	Dryer Unloading Zero Point Filter	2155	Dryer Unloading System	2155
				Cyclone	
				Screener	751068
				Pulverizer	550216
				Tote Loading System	420564
	EC-ACD-203	Blender Zero Point Filter (filter receiver)	2155 751056	Air Mix Blender	2155 600167
				Dust Collector	751062
	EC-ACD-204	Vacuum Dust Collector Zero Point Filter	2155	Packaging	2155
				Tote Unloading System	420564
				Bag Packer	420569

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)	
				Housekeeping Vacuum		140155
EC Tanks	EC-ACD-101	Vent Scrubber System		Bldg Vapor Scrubber	2038	750175
	EC-TNK-301			Ether Tank	9105	800474
	EC-TNK-302			Ethanol Tank		
				Low Wine Storage Tanks	9105	
	EC-TNK-322			T-22		800222
	EC-TNK-324			T-24		800224
	EC-TNK-325			T-25		800227
	EC-TNK-327			T-27		800434
				Low Wine Feed Tank,	9105	
	EC-TNK-310			T-10		800474
	EC-TNK-315			T-15		800215
				EtCl Storage Tanks		
	EC-TNK-321			T-21, Recovery		
	EC-TNK-326			T-26, Recovery		800226
	EC-TNK-328			T-28		
				EtCl Scale Tanks		
	EC-TNK-349			North		800949
	EC-TNK-348			South		800948
				Low Wine Pressure Tks	2057	
	EC-TNK-345			#1 South		800145
	EC-TNK-346			#2 North		800146
		Atmospheric Vents		NaOH Scale Tanks		
	EC-TNK-334			T-34	2038	800394
	EC-TNK-335			T-35	2038	800395
	EC-TNK-343			T-43	9333	801119
	EC-TNK-306			T-6	2111	
		Atmospheric Vents		NaOH Storage Tanks		
	EC-TNK-SC1			Spent Caustic	9105	800438
	EC-TNK-340			T-40	9333	800240
	EC-TNK-341			T-41	9333	800241
	EC-TNK-358			T-58	9105	801294
	EC-TNK-359			T-59	9105	801295
	EC-TNK-354			T-54	9105	800154
	EC-TNK-355			T-55	9105	800155
	EC-TNK-351			T-51		
	EC-TNK-360	Atmospheric Vent		Chlorine Scrubber Tank (contains NaOH)	2038	801638
EC Chemical Recovery	EC-ACD-301	Vent Scrubber System		Ethyl Chloride Distillation Columns (2)	2039	
				Stripper, EtCl		010201
				Stripper, solvent		010202
				Condensers (3)		
				Vent Stripper Cooler		280361

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				A3 Still Preheater	280722
				Alcohol Cooler	280219
MCA Reaction MCA Capacity: 8,000 tons/yr	MC-ACD-001	Chlorine Scrubber Tank Venturi Jet	2164 801638 600366	Chlorine Unloading	
	MC-ACD-002	Sewer Scrubber	2135 010247	Catalyst Scrubber and Condensers Chlorinators #1 North #2 South	2135 2135 700095 700099
MCA Purification	MC-ACD-002	Sewer (Distillation) Scrubber	2135 010247	Distillation Column Condensers, Primary & Secondary	2135 010196 2135 280958, 281060
MCA Chemical Recovery	MC-ACD-002 MC-ACD-103	Sewer Scrubber	2135 010247	Catalyst Scrubber HCL Scrubber Separator Pots (3) Final Off-Gas Cooler Secondary Primary Condensers (8)	 2135 750980
MCA Tanks	MC-ACD-002 MC-TNK-201 MC-TNK-220 MC-TNK-221 MC-TNK-223 MC-TNK-224 MC-TNK-225 MC-TNK-226 MC-TNK-227 MC-TNK-230 MC-TNK-294 MC-TNK-295 MC-TNK-296	Tank Farm Scrubber [for emergency use; normally all tanks part of a closed system under vacuum] Vent to Atmosphere	2135 010247	MCA Crude Tank MCA Recycle Tanks T-20 T-21 T-23 T-24 T-25 T-26 Still Recycle MCA Trailer Acetic Acid Tanks T-94 T-95 Acetic Anhydride Tk 96	2135 801645 9114 801429 801168 801617 801422 801420 801423 2135 801022 9036 9114 801175 801163 9114 801174

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
Technical Facility: Research/ Pilot scale Operation	TF-ACD-001	Process Scrubber		Pilot-Scale Reactors - 10 gal (3) Reactor – 250 gal Purification Vessels Hold Tub Effluent Tub Purification Tub Fume Hoods (7) Purification Ports (3 or 4) Vacuum Receiver Tank	
	TF-ACD-002	Vacuum Receiver Tank		Dryer Ovens (2) Pilot-Scale Reactors (3), -10 gal Reactor – 250 gal	
		Vent to Atmosphere		Grinders, laboratory scale Mill Pulverizers (3) Screeners (2)	3185 550157 550241, 550242 750001
	TF-TNK-510 TF-TNK-520 TF-TNK-530 TF-TNK-540 TF-TNK-550 TF-TNK-560 TF-TNK-570	Vent to Atmosphere		Acetone/Methanol Tank Acetone/Methanol Tank Isopropanol Tank Methanol Tank Acetone Tank Distilled Solvent Tank Spent Solvent Tank	

III. CMC Process Area

A. Limitations

1. Total suspended particulate and PM_{10} emissions from the CMC process, including the two CMC cellulose weigh/storage bins (CM-ACD-001), shall be controlled by baghouses. The baghouses shall be provided with adequate access for inspection.

   (Condition #3, 2/25/03 permit and 9 VAC 5-80-110)

2. Volatile Organic Compound emissions from the CMC process shall be controlled by three scrubbers: the Alkali Cellulose Loading scrubber, the Oxygen scrubber and the Common Header scrubber. The scrubbers shall be provided with adequate access for inspection.

   (Condition #4, 2/25/03 permit and 9 VAC 5-80-110)

3. VOC emissions from the CMC Process Area shall be controlled by the use of solvent recovery and process scrubbers having an overall VOC control efficiency of at least 99% on a mass basis, calculated monthly as a six-month rolling average. Compliance with this requirement shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i \Big/ \sum_{i=1}^{i=6} (V_T)_i \times 100 >= 99\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from measured flow and VOC concentration of still output

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = Mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

- sewer losses are calculated based on continuous flow-weighted composite samples of wastewater and physical flow measurements

- derivation losses are calculated based on a product-specific correlation between production rate and solvent loss taken from previous study of this type of loss.

- product residual losses are determined from previous sampling and product-specific data on solvent remaining in the product as it leaves the plant.

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.
(Condition #6 of 2/25/03 NSR Permit and Conditions E.5 and E.13 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

4. Emissions from the operation of the CMC process shall not exceed the limits specified below, calculated monthly as the sum of each consecutive 12 month period:

   Volatile Organic Compounds 422 tons/yr

   (Condition #7, 2/25/03 permit and 9 VAC 5-80-110)

5. Total Suspended Particulate and PM_{10} emissions from the operation of the CMC process reference points shall not exceed the limits specified below:

Ref. No.	Description	Emission Limits	
		lb/hr	tons/yr
CM-ACD-001	Cellulose Prep Area (Shredders/Storage Bins)	0.4	1.4
CM-ACD-309	#1 Mill Feed Baghouse	0.2	0.9
CM-ACD-310	#2 Mill Feed Baghouse	0.2	0.9
CM-ACD-311	Regrind Mill Feed Dust Baghouse	0.2	0.9
CM-ACD-312	#1 Mill Product Dust Baghouse	0.5	2.0
CM-ACD-313	#2 Mill Product Dust Baghouse	0.5	2.0
CM-ACD-314	Regrind Mill Product Baghouse	0.5	2.0
CM-ACD-315	#1 Blender Baghouse (Convey)	0.3	0.5
CM-ACD-315	#1 Blender Baghouse (Pulse)	0.6	0.5
CM-ACD-316	#2 Blender Baghouse (Convey)	0.3	0.5

Ref. No.	Description	Emission Limits	
		lb/hr	tons/yr
CM-ACD-316	#2 Blender Baghouse (Pulse)	0.6	0.5
CM-ACD-317	Custom Blender Dust Collector	0.3	0.5
CM-ACD-318	Vacuum Baghouse Dust Collector	0.1	0.5
CM-ACD-319	Aspirator Dust Collector	0.2	0.8
CM-ACD-301 through CM-ACD-308	Dryer Storage Bin Vent Filters	0.1	0.5
	Totals	4.7	12.3

(Condition #8, 2/25/03 permit and 9 VAC 5-80-110)

6. Visible emissions from the baghouses shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

   (Condition #9, 2/25/03 permit and 9 VAC 5-80-110)

B. Monitoring and Recordkeeping

7. The CMC Process Area VOC still output shall be continuously measured and the totalized flow recorded once per shift.

   (Condition E.10 of RACT Agreement 7/12/96 and 9 VAC 5-80-110 E)

8. A monthly inspection shall be conducted on each fabric filter, including any differential pressure gauges, in the CMC process area and the scrubbers listed in Conditions #1 and #2 to insure the proper operation of each fabric filter and scrubber. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

   (9 VAC 5-80-110 E)

9. Each baghouse subject to condition #6 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation

unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110 E)

10. The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. The annual VOC emissions from the CMC process area, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs or material balance calculations used in calculating these emissions.

    b. All records necessary to show compliance with Condition #3, including:

        - inventory records, purchase records and cost sheets which show changes in inventory;
        - cumulative records of solvent throughput as specified in Condition #7
        - wastewater sampling and flow measurement data;
        - derivation loss correlation data;
        - product residual data; and
        - calculations and all background data used to calculate VOC control efficiency in accordance with Condition #3 of this permit.

    c. Scheduled and unscheduled maintenance, and operator training.

    d. Records of monthly inspections required by Condition #8.

    e. The annual particulate emissions from the equipment listed in Condition #5, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

    f. The results of the monthly visible emission surveys required by Condition #9 and details of any corrective action taken as a result of these inspections

    g. The maximum hourly particulate emissions from the equipment listed in Condition #5, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or material balance calculations used in calculating these emissions.

    These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
    (Condition E.14 of 7/12/96 RACT Agreement, Condition #13, 2/25/03 permit and 9 VAC 5-80-110 E)

11. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #9 above. If the test indicates the facility is out of compliance with the standard contained in Condition #6, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XIII, Condition E.

    (9 VAC 5-80-110 E)

C. MACT Subpart UUUU

12. Unless other wise specified in 40 CFR 63 Subparts A and UUUU, upon June 13, 2005, the CMC Process Area shall be in compliance with all applicable provisions of 40 CFR 63, Subparts A and UUUU.

    (40 CFR 63 Subparts A and UUUU and 9 VAC 5-80-110 E)

IV. Natrosol Process Area

A. Limitations

13. Particulate emissions from the Natrosol production area shall be controlled by fabric filter. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to sense and alarm or read out high differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times. Fugitive emissions from the weigh bins shall be controlled by bag filter, at minimum. The weigh bins and bag filters shall be provided with adequate access for inspection.

    (Condition #3, 6/28/96 permit and 9 VAC 5-80-110)

14. VOC emissions from the Natrosol reactors shall be controlled by a scrubber. The scrubber shall be provided with adequate access for inspection. The scrubber shall be equipped with a flow meter and a device to continuously measure the differential pressure through the scrubber.

    (Condition #4, 6/28/96 permit and 9 VAC 5-80-110)

15. The annual production of Natrosol shall not exceed 21,900 tons/yr, calculated as the sum of each consecutive 12 month period.

    (Condition #6, 6/28/96 permit and 9 VAC 5-80-110)

16. Air emissions from the Natrosol production area shall not exceed the limits specified below:

TSP/PM-10	4.8 lbs/hr	19.0 tons/yr
Volatile Organic Compounds		170.0 tons/yr

    (Condition #7, 6/28/96 permit and 9 VAC 5-80-110)

17. Best Available Control Technology and compliance with the annual VOC emission limit contained in Condition #16 shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i \Big/ \sum_{i=1}^{i=6} (V_T)_i \times 100 >= 98\%$$

    where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as determined from inventory measurements and/or measured flow and VOC concentration of still output

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = Mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

- sewer losses are calculated based on continuous flow-weighted composite samples of wastewater and physical flow measurements

- derivation losses are calculated based on a product-specific correlation between production rate and solvent loss taken from previous study of this type of loss.

- product residual losses are determined from previous sampling and product-specific data on solvent remaining in the Natrosol product as it leaves the plant.

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.
(Condition #8, 6/28/96 permit; Condition E.6 and E.13 of RACT Agreement 7/12/96 and 9 VAC 5-80-110)

18. Visible emissions from the Natrosol production area fabric filters shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). (Condition #9, 6/28/96 permit and 9 VAC 5-80-110)

B. Monitoring and Recordkeeping

19. A monthly inspection shall be conducted on each fabric filter in the Natrosol production area, the weigh bins bag filter, and the Natrosol reactor VOC scrubber to insure the proper operation of the bag filter, the VOC scrubber and its associated flow meter and differential pressure device, each fabric filter and each fabric filter's differential pressure device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

    (9 VAC 5-80-110 E)

20. Each fabric filter subject to condition #18 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.

    (9 VAC 5-80-110 E)

21. The Natrosol Process Area VOC still output shall be continuously measured and the totalized flow recorded once per shift.

    (Condition E.10 of RACT Agreement 7/12/96 and 9 VAC 5-80-110 E)

22. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:

    a. The yearly production of Natrosol, calculated as the sum of each consecutive 12 month period.

    b. All records necessary to show compliance with Conditions #16 and #17, including:

        - inventory records, purchase records and cost sheets which show changes in inventory;
        - cumulative records of solvent throughput as specified in Condition #21
        - wastewater sampling and flow measurement data;
        - derivation loss correlation data;
        - product residual data; and
        - calculations and all background data used to determine VOC emissions and VOC control efficiency in accordance with Conditions #16 and #17 of this permit.

c. Records of monthly inspections required by Condition #19.

d. The annual particulate emissions from the Natrosol Production Area, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

e. The results of the monthly visible emission surveys of the Natrosol production area fabric filters (required by Condition #20) and details of any corrective action taken as a result of these inspections

f. The maximum hourly particulate emissions from the Natrosol Production Area, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or material balance calculations used in calculating these emissions.

These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.
(Condition E.14 of 7/12/96 RACT Agreement, Condition #12, 6/28/96 permit and 9 VAC 5-80-110 E)

23. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #20 above. If the test indicates the facility is out of compliance with the a standard contained in Condition #18, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XIII, Condition E.
(9 VAC 5-80-110 E)

C. MACT Subpart UUUU

24. Unless other wise specified in 40 CFR 63 Subparts A and UUUU, upon June 13, 2005, the Natrosol Process Area shall be in compliance with all applicable provisions of 40 CFR 63, Subparts A and UUUU.
(40 CFR 63 Subparts A and UUUU and 9 VAC 5-80-110 E)

V. Klucel Process Area

A. Limitations

25. Particulate emissions from the cellulose preparation area shall be controlled by fabric filters having control efficiencies of at least 99%. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The devices shall be installed in an accessible location and shall be maintained by the permittee such that they are in proper working order at all times.

    (Condition #3, 8/20/98 permit and 9 VAC 5-80-110)

26. Volatile Organic Compound emissions from the Klucel process area shall be controlled by solvent recovery and process scrubbers, having an overall VOC control efficiency of at least 96% on a mass basis, calculated monthly as a 6-month rolling average. VOC flow shall be measured and the totalized flow recorded for each batch.

    (Condition #4, 8/20/98 permit; Conditions E.3 and E.9 of RACT Agreement 7/12/96 and 9 VAC 5-80-110)

27. Volatile Organic Compound fugitive emissions from the centrifuges (Centrifuge #1 and Centrifuge #2) shall be controlled by mechanical seals. The centrifuges and mechanical seals shall be provided with adequate access for inspection.

    (Condition #5, 8/20/98 permit and 9 VAC 5-80-110)

28. The annual production of Klucel shall not exceed 2550 tons per year, calculated monthly as the sum of each consecutive 12 month period.

    (Condition #7, 8/20/98 permit and 9 VAC 5-80-110)

29. Emissions from the operation of the Klucel hydroxypropyl cellulose process shall not exceed the limits specified below:

Total Suspended Particulate	0.5 lbs/hr	1.0 tons/yr
PM-10	0.5 lbs/hr	1.0 tons/yr
Volatile Organic Compounds	42.2 lbs/hr	195.0 tons/yr

    (Condition #8, 8/20/98 permit and 9 VAC 5-80-110)

30. Best Available Control Technology and compliance with the annual VOC emission limit contained in Condition #29 shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i \Big/ \sum_{i=1}^{i=6} (V_T)_i \times 100 >= 96\%$$

where:

V_T= mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from measured VOC flow

V_A= mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$V_A = V_{LOSS} - V_{OTHER}$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from the current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER}= Mass of non-air VOC losses (which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer)

i = month number one through month number 6 of the 6-month period

(Condition #9, 8/20/98 permit; Condition E.3 and E.10 of RACT Agreement 7/12/96 and 9 VAC 5-80-110)

31. Visible emissions from the Klucel cellulose preparation fabric filters shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

    (Condition #10, 8/20/98 permit and 9 VAC 5-80-110)

32. Visible emissions from the tanks, reactors, scrubbers, and all emission units in the Klucel area other than the fabric filters shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
    (Condition #11, 8/20/98 permit and 9 VAC 5-80-110)

B. Monitoring and Recordkeeping

33. A monthly inspection shall be conducted on the mechanical seals on the centrifuges, Centrifuge #1 and Centrifuge #2, as well as each fabric filter in the cellulose preparation area to insure the proper operation of each seal, fabric filter and each fabric filter's differential pressure device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
    (9 VAC 5-80-110 E)

34. Each fabric filter subject to condition #31 and each emissions unit with an atmospheric vent subject to condition #32 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.
    (9 VAC 5-80-110 E)

35. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. The yearly production of Klucel, calculated monthly as the sum of each consecutive 12 month period.

    b. Monthly VOC inventory and throughput records which demonstrated compliance with Conditions #26, #29 and #30, including but not limited to:

        (1) inventory records, purchase records and cost sheets which show changes in inventory;

        (2) cumulative records of solvent throughput as specified in Condition #26;

        (3) wastewater sampling and flow management data;

        (4) derivation loss correlation data;

        (5) product residual data; and

(6) calculations used to determine VOC emissions and VOC control efficiency in accordance with Conditions #26, #29 and #30 of this permit.

c. Records of monthly inspections required by Condition #33.

d. The annual particulate emissions from the Klucel hydroxypropyl cellulose process, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

e. The results of the monthly visible emission surveys required by Condition #34 and details of any corrective action taken as a result of these inspections

f. The maximum hourly particulate and VOC emissions from the Klucel hydroxypropyl cellulose process, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or 6-month rolling average material balance calculations used in calculating these emissions.

These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.
(Condition E.14 of 7/12/96 RACT Agreement, Condition #13, 8/20/98 permit and 9 VAC 5-80-110)

36. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #34 above. If the test indicates the facility is out of compliance with a standard contained in Conditions #31 or #32, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XIII, Condition E.

(9 VAC 5-20-110, 9 VAC 5-50-50 and 9 VAC 5-80-110 E of State Regulations)

C. MACT Subpart UUUU

37. Unless other wise specified in 40 CFR 63 Subparts A and UUUU, upon June 13, 2005, the Klucel Process Area shall be in compliance with all applicable provisions of 40 CFR 63, Subparts A and UUUU.

(40 CFR 63 Subparts A and UUUU and 9 VAC 5-80-110 E)

VI. Ethyl Cellulose Process Area

A. Limitations

38. The annual production of ethyl cellulose shall not exceed 3500 tons per year, calculated monthly as the sum of each consecutive 12 month period.

(Condition #2, 1/9/84 permit and 9 VAC 5-80-110)

39. Emissions from the operation of the following EC area emission units shall not exceed the limits specified below:

	ACD204	ACD201	ACD202	ACD203	ACD101
TSP					
- lbs/hr	4.2	0.03	0.03	0.03	
- tons/yr	8.8	0.11	0.11	0.11	
VOC					
- lbs/hr					58.0
- tons/yr					256.0

(Condition #3, 1/9/84 permit and 9 VAC 5-80-110)

40. VOC emissions from the EC Process Area shall be controlled by the use of solvent recovery and process scrubbers having an overall VOC control efficiency of at least 90% on a mass basis, calculated monthly as a six-month rolling average. Compliance with this requirement shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i \Big/ \sum_{i=1}^{i=6} (V_T)_i \times 100 >= 90\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from inventory measurements

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus
Mass of starting inventory from current month, minus
Mass of solvent purchased in the current 1-month period,
(as determined from purchase records and cost sheets
which show changes in inventory)

V_{OTHER} = Mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.
(Conditions E.4 and E.12 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

41. Visible emissions from all emission units and control devices in the EC Process Area shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-80 and 9 VAC 5-80-110)

B. Process Monitoring and Recordkeeping

42. Each emissions unit and control device with an atmospheric vent subject to condition #41 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110 E)

43. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. The yearly production of ethyl cellulose, calculated monthly as the sum of each consecutive 12 month period.

    b. The annual VOC and particulate emissions from the equipment specified in Condition #39, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.

    c. The maximum hourly particulate and VOC emissions, as applicable, from the emission units listed in Condition #39, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or 6-month rolling average material balance calculations used in calculating these emissions.

    d. The results of the monthly visible emission surveys required by Condition #42 and details of any corrective action taken as a result of these inspections.

    e. Monthly VOC inventory and throughput records which demonstrate compliance with Conditions #39 and #40, including but not limited to:

        (1) inventory records, purchase records and cost sheets which show changes in inventory;

        (2) cumulative records of solvent throughput as specified in Condition #40;

        (3) wastewater sampling and flow management data;

        (4) derivation loss correlation data;

        (5) product residual data; and

        (6) calculations used to determine VOC emissions and VOC control efficiency in accordance with Conditions #39 and #40 of this permit.

    These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.
    (Condition E.14 of 7/12/96 RACT Agreement and 9 VAC 5-80-110 E of State Regulations)

44. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #42 above. If the test indicates the facility is out of compliance with the standard contained in Condition #41, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XIII, Condition E.

    (9 VAC 5-20-110, 9 VAC 5-50-50 and 9 VAC 5-80-110 E of State Regulations)

C. Leak Detection and Repair Limitations, Recordkeeping, and Reporting

45. The EC Process Area is subject to and will comply with the Leak Detection and Repair Requirements of 40 CFR 63 Subpart H, including the provisions of 40 CFR:

    63.162 – Standards: General
    63.163 – Standards: Pumps in light liquid service
    63.165 – Standards: Pressure relief devices in gas/vapor service
    63.166 – Standards: Sampling Connection systems
    63.167 – Standards: Open-ended valves or lines
    63.168 – Standards: Valves in gas/vapor service and in light liquid service
    63.169 – Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service
    63.171 – Standards: Delay of repair
    63.173 – Standards: Agitators in gas/vapor service and in light liquid service
    63.174 – Standards: Connectors in gas/vapor service and in light liquid service
    63.180 – Test methods and procedures
    63.181 – Recordkeeping requirements
    63.182 – Reporting requirements
    (9 VAC 5-80-110 and 40 CFR 63 Subpart H)

VII. MCA Process Area and MCA Mobile Transfer Rack

A. Limitations

46. Volatile Organic Compound emissions from the MCA process area shall be controlled by solvent recovery and process scrubbers, and shall not exceed 15 tons per year. Compliance with this emission limit shall be demonstrated by annual reporting of VOC emissions.

(Condition E.7 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

B. Monitoring and Recordkeeping

47. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

a. annual VOC emissions from the MCA Process Area, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.

b. An analysis demonstrating the design and actual annual throughput of the MCA mobile transfer rack, updated annually.

c. An analysis documenting the weight percent organic HAPs in the liquid loaded into the MCA mobile transfer rack, updated annually.

d. Documentation of the organic HAPs (by compound) that are transferred into the MCA mobile transfer rack, updated annually.

(Condition E.14 of 7/12/96 RACT Agreement, 9 VAC 5-80-110 E and 40 CFR 63.130(f))

C. Leak Detection and Repair Limitations, Recordkeeping, and Reporting

48. The MCA Process Area is subject to and will comply with the Leak Detection and Repair Requirements of 40 CFR 63 Subpart H, including the provisions of 40 CFR:

63.162 – Standards: General
63.163 – Standards: Pumps in light liquid service
63.165 – Standards: Pressure relief devices in gas/vapor service
63.166 – Standards: Sampling Connection systems
63.167 – Standards: Open-ended valves or lines

63.168 – Standards: Valves in gas/vapor service and in light liquid service
63.169 – Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service
63.171 – Standards: Delay of repair
63.174 – Standards: Connectors in gas/vapor service and in light liquid service
63.180 – Test methods and procedures
63.181 – Recordkeeping requirements
63.182 – Reporting requirements

(9 VAC 5-80-110 and 40 CFR 63 Subpart H)

VIII. Technical Facility

A. Limitations

49. Volatile Organic Compound emissions from the Technical facility process area shall be controlled by solvent recovery and process scrubbers, and shall not exceed 15 tons per year. Compliance with this emission limit shall be demonstrated by annual reporting of VOC emissions.

    (Condition E.8 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

B. Monitoring and Recordkeeping

50. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. annual VOC emissions from the Technical Facility, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.

    (Condition E.14 of 7/12/96 RACT Agreement and 9 VAC 5-80-110 E)

IX. Storage Tanks

A. Limitations

51. The storage tanks listed in the table below are subject to the conditions of this sections as specified:

AREA	Tank ID#	Subject to Condition #52	Subject to Condition #53	Subject to Condition #55.d.
CMC	CM-TNK-413	x	x	
CMC	CM-TNK-414	x	x	
CMC	CM-TNK-416	x	x	
CMC	CM-TNK-408	x	x	x
CMC	CM-TNK-418	x		
CMC	CM-TNK-420	x	x	
CMC	CM-TNK-407	x	x	
CMC	CM-TNK-411	x		
CMC	CM-TNK-409	x	x	
CMC	CM-TNK-410	x		
CMC	CM-TNK-422	x	x	
CMC	CM-TNK-423	x	x	
CMC	T-1	x	x	
CMC	T-2	x	x	
CMC	CM-TNK-417	x		
CMC	CM-TNK-419	x		
CMC	CM-TNK-415	x		
CMC	CM-TNK-412	x		
Natrosol	NA-TNK-341	x	x	
Natrosol	NA-TNK-347	x		
Natrosol	NA-TNK-342	x	x	
Natrosol	NA-TNK-343	x	x	
Natrosol	NA-TNK-330	x	x	
Klucel	KL-TNK-306	x		
Klucel	KL-TNK-322	x		x
Klucel	KL-TNK-309	x	x	
Klucel	KL-TNK-308	x		
Klucel	KL-TNK-307	x		
Klucel	KL-TNK-337	x		
Klucel	KL-TNK-363	x		
EC	EC-TNK-315	x		
EC	EC-TNK-322	x		
EC	EC-TNK-324	x		
EC	EC-TNK-325	x		x
EC	EC-TNK-326	x		

EC	EC-TNK-327	x		
EC	EC-TNK-321	x		
EC	EC-TNK-328	x		
EC	EC-TNK-310	x		
TechFac	TF-TNK-514	x		
TechFac	TF-TNK-515	x		
TechFac	TF-TNK-516	x		
TechFac	TF-TNK-540	x		
TechFac	TF-TNK-550	x		
TechFac	TF-TNK-560	x		
TechFac	TF-TNK-570	x		

(9 VAC 5-80-110)

52. Each storage tank indicated in Condition #51 shall be equipped with a control method that will remove, destroy or prevent the discharge into the atmosphere of at least 60% by weight of VOC emissions during the filling of such tank. The use of a submerged fill pipe shall be considered acceptable achievement of this standard.

    (9 VAC 5-40-3430 B, 9 VAC 5-40-3440 B and 9 VAC 5-80-110)

53. Each storage tank indicated in Condition #51 shall be equipped with a control method that will remove, destroy or prevent the discharge into the atmosphere of at least 90% by weight of VOC emissions.

    (9 VAC 5-40-3430 B, 9 VAC 5-40-3440 B and 9 VAC 5-80-110)

B. Monitoring and Recordkeeping

54. A monthly inspection shall be conducted on each control device (including, but not limited to, the CMC Field Tank Vent Scrubber (CM-ACD-406), the Natrosol EO/PO and Solvent Vent Scrubbers (NA-ACD-301 and NA-ACE-101) and the Klucel Process Vent Scrubber (KL-ACD-301)) used to achieve compliance with condition #53 for any storage tank so indicated in condition #51. The inspection shall include both the structural integrity and the operating parameters of each control device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

    (9 VAC 5-80-110 E)

55. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. certification of submerged fill pipe for each storage tank subject to Condition #52.

    b. Certification/demonstration that each control device used to achieve compliance with Condition #53 is capable of achieving 90% VOC control efficiency as well as the appropriate operating range for each operating parameter necessary to demonstrate that each control device is continuing to meet or exceed the 90% VOC control efficiency requirement.

    c. Records of monthly inspections required by Condition #54.

    d. For each storage tank indicated in Condition #51, the dimensions of each storage tank and an analysis showing the capacity of the storage tank.

    (9 VAC 5-80-110 E; 40 CFR 63.123(a) and 40 CFR 60.116b)

X. Facility Wide Conditions

A. Periodic Monitoring and Recordkeeping (Conditions 56 and 57 apply only the CMC, Natrosol and Klucel process areas)

56. In order to minimize the duration and frequency of excess emissions, including visible emissions, due to malfunctions of process equipment or air pollution control equipment, the permittee shall:

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.

    b. Maintain an inventory of spare parts that are needed to minimize durations of air pollution control equipment breakdowns.

    (9 VAC 5-170-160 and 9 VAC 5-50-20 of State Regulations, Condition #24 of the 2/25/03 NSR permit)

57. The permittee shall have available written operating procedures for the related air pollution control equipment. Operators shall be trained in the proper operation of all such equipment and shall be familiar with the written operating procedures. These procedures shall be based on the manufacturer's recommendations, at minimum. The permittee shall maintain records of training provided including names of trainees, date of training and nature of training.

    (9 VAC 5-170-160 and 9 VAC 5-50-20 of State Regulations, Condition #24 of the 2/25/03 NSR permit)

B. Testing (Conditions 58 and 59 apply to the entire facility)

58. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.
    (9 VAC 5-50-30 and 9 VAC 5-80-110)

59. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
PM/PM-10	EPA Method 5, 17
Visible Emission	EPA Method 9

(9 VAC 5-80-110)

XI. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
N/A	Eight Lubricant/used-oil storage tanks	9 VAC 5-80-270 C		275 gallon each

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

XII. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
None identified		

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

XIII. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-110 N)

B. Permit Expiration

This permit shall become invalid five years from the date of issuance. The permittee shall submit an application for renewal of this permit no earlier than 18 months and no later than six months prior to the date of expiration of this permit. Upon receipt of a complete and timely application for renewal, this source may continue to operate subject to final action by the DEQ on the renewal application.
(9 VAC 5-80-110 D and 9 VAC 5-80-80 F)

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

   a. The date, place as defined in the permit, and time of sampling or measurements.

   b. The date(s) analyses were performed.

   c. The company or entity that performed the analyses.

   d. The analytical techniques or methods used.

   e. The results of such analyses.

   f. The operating conditions existing at the time of sampling or measurement.

   (9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
(9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

   a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.

   b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

      (1) Exceedance of emissions limitations or operational restrictions;

      (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

      (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

   (9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

a. The time period included in the certification. The time period to be addressed is January 1 to December 31.

b. The identification of each term or condition of the permit that is the basis of the certification.

c. The compliance status.

d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.

e. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

f. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall notify the Director, Piedmont Region, within four daytime business hours of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the occurrence, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition XIII.C.3. of this permit.
(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

F. Failure/Malfunction Reporting

If, for any reason, the affected facilities or related air pollution control equipment fails or malfunctions and may cause excess emissions for more than one hour, the owner shall notify the Director, Piedmont Region, within four (4) daytime business hours of the occurrence. In addition, the owner shall provide a written statement, within 14 days, explaining the problem, corrective action taken, and the estimated duration of the breakdown/shutdown.
(9 VAC 5-80-250)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-110 G.2)

I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)

J. Permit Action for Cause

4. This permit may be modified, revoked, reopened, and reissued, or terminated for cause as specified in 9 VAC 5-80-110 L, 9 VAC 5-80-240 and 9 VAC 5-80-260. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
(9 VAC 5-80-110 G.4)

5. Such changes that may require a permit modification and/or revisions include, but are not limited to, the following:

   a. Erection, fabrication, installation, addition, or modification of an emissions unit (which is the source, or part of it, which emits or has the potential to emit any regulated air pollutant), or of a source, where there is, or there is potential of, a resulting emissions increase;

   b. Reconstruction or replacement of any emissions unit or components thereof such that its capital cost exceeds 50% of the cost of a whole new unit;

   c. Any change at a source which causes emission of a pollutant not previously emitted, an increase in emissions, production, throughput, hours of operation, or fuel use greater than those allowed by the permit, or by 9 VAC 5-80-11, unless such an increase in authorized by an emissions cap; or any change at a source which causes an increase in emissions resulting from a reduction in control efficiency, unless such an increase is authorized by an emissions cap;

   d. Any reduction of the height of a stack or of a point of emissions, or the addition of any obstruction which hinders the vertical motion of exhaust;

   e. Any change at the source which affects its compliance with conditions in this permit, including conditions relating to monitoring, recordkeeping, and reporting;

   f. Addition of an emissions unit which qualifies as insignificant by emissions rate (9 VAC 5-80-720 B) or by size or production rate (9 VAC 5-80-720 C);

   g. Any change in insignificant activities, as defined by 9 VAC 5-80-90 D.1.a(1) and 9 VAC 5-80-720 B and 9 VAC 5-80-720 C.

   (9 VAC 5-80-110 G, 9 VAC 5-80-110 J, 9 VAC 5-80-240, and 9 VAC 5-80-260)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)

L. Duty to Submit Information

6. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9 VAC 5-80-110 G.6)

7. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.
(9 VAC 5-80-110 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-305 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-355. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by **April 15** of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

b. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;

d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9 VAC 5-50-20)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.
(9 VAC 5-80-110 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

d. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-150 E)

T. Transfer of Permits

8. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)

9. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

10. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

11. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.

12. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

    a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.

    b. The permitted facility was at the time being properly operated.

    c. During the period of malfunction, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.

    d. For malfunctions that occurred for one hour or more, the permittee submitted to the Board by the deadlines described in **Failure/Malfunction Reporting** above, a

notice and written statement containing a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notice fulfills the requirement of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements.

13. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.
    (9 VAC 5-80-250)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

Y. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)

Z. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9 VAC 5-80-110 I)

AA. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.

2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.

3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)